COMPANY PROFILE

Doewe Technologies, headquartered in Beijing, has been operating for a decade and currently has branches including the Beijing R&D Center, Chengdu R&D Center, Doewe Shanghai, Doewe Shenzhen, and Doewe Hong Kong. The company is fully committed to building its independent brand "Doewe," with its business covering two main categories: Advanced Sensing Measurement and Control (ASMC) and Professional Test and Measurement Solutions (PTMS).

The ASMC product line provides innovative high-precision sensing acquisition and data analytics solutions. PTMS focuses on industry-specific test and measurement solutions for audio, video, and RF applications. It has established the 5XC product system, serving sectors such as transportation, broadcasting, automotive electronics, consumer electronics, and university research institutes.

Through relentless effort, several of the company's products have become benchmark test instruments in their respective industries. Doewe Technologies also holds multiple core patents and software copyrights, participates in relevant industry standards working groups, and contributes to the formulation of national and industry standards. Building on past achievements, Doewe continues to increase its R&D investment. We have never forgotten our original aspiration, firmly believing that only profound technological accumulation creates value. We persistently pursue innovation in test and measurement technology, dedicated to technology development, application software services, and research in test and measurement solutions.

Leveraging its Beijing headquarters, related technical centers, and subsidiaries, Doewe Technologies has gradually established a nationwide pre-sales and after-sales service network, providing customers with professional technical consultation. Guided by the principles of "Rigorous, Efficient, Professional, Innovative," Doewe Technologies will continue steadfastly on this path, living up to the trust of every customer.

The journey ahead is long and challenging. We will accompany you on this path of growth to create a new future of technology together.

Function Overview

- The IP video signal generator supports a Gigabit Ethernet port, which can directly output standard video signals through the Gigabit Ethernet port, and supports the function of expanding optical port output in the future；

- IP video output supports the GB/T 28181 - 2016 protocol (media sending end), the RTSP protocol (server side), the RTSP protocol (stream pushing end), and the UDP protocol；

- The product series includes three different models: IPSG Lite, IPSG Pro, and IPGS Extra, which can meet various testing needs such as single-channel and multi-channel (up to 128 channels)；

- It supports the configuration of parameters related to the GB/T 28181-2016 standard, including SIP server ID, domain, address, port, password, heartbeat interval, and concurrency count, etc；

- It supports configuring RTSP server parameters, including starting port, stream starting name, and concurrency count, etc；

- It supports configuring parameters for the RTSP streaming sender, including the RTSP streaming address, concurrency count, etc；

- The device supports functions such as adding, saving, loading and deleting test plans. It can save video output configurations, and after loading a test plan, the saved relevant configurations can be directly imported for testing；

- For the video source, you can choose a video file with the MP4 suffix and encoded in H.264 video coding format；

- The video source can select static images, encode the output stream with H.264, and parameters such as resolution and bit rate can be controlled；

- The equipment of the IP video signal generation module adopts a touch - screen design.

System Testing Framework
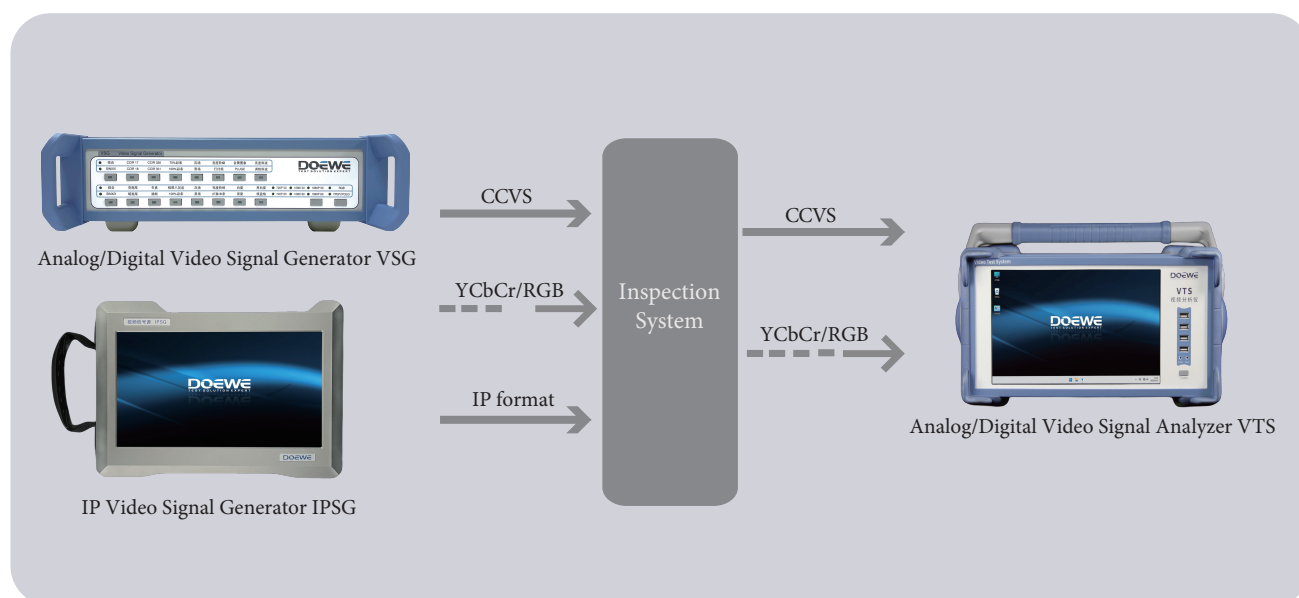
For the actual testing of GB 2182 standard content, traditional analog standard-definition video transmission systems have gradually faded out, replaced by IP video transmission networks with integrated encoder cameras as the starting end. Therefore, the analog/digital uncompressed (or non-IP) signal sources used in the past often rely on external gateways (encoders) to convert baseband unencoded video signal formats into IP video signal formats for accessing the transmission system under test. The drawback of this solution is that the external gateway (encoder) used will cause image degradation to high-quality uncompressed video signals, such that the quality of the video signal before accessing the system under test may not meet the standard, which has aroused doubts from the owner. Therefore, it is generally recommended to use external gateways approved by the manufacturer of the system under test.

Based on this current situation, the IP video signal source supports outputting high-quality IP video signals for access to the closed-circuit television (CCTV) monitoring transmission system under test. It also supports the GB 28181 standard protocol. Video quality tests are conducted under the same working mode of the camera, making the test indicators closer to real-world conditions.

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Model Introduction

IPSG Extra

- Excellent processing performance, supporting simulated 128 - channel concurrent testing;
- Equipped with a 10.1-inch LCD touchscreen, making the operation convenient;
- Support a 3-slot PCIe expansion board interface and allows for the upgrade of optical port modules and other functional boards;
- Equipment Dimensions：
  364mm × 330mm × 191mm

IPSG Pro

- Support 32-channel concurrent testing;
- Support external power supply or built-in battery power supply, making it easy to carry for testing;
- Equipped with a 11.6-inch LCD touchscreen, making the operation convenient;
- Equipment Dimensions：
  315mm × 225mm × 58mm

IPSG Lite

- Support single-channel IP video transmission testing;
- Adopting three-proof hardware combined with a portable design, it is suitable for outdoor scene testing;
- Equipped with a 10.1-inch LCD touchscreen, making the operation convenient;
- Equipment Dimensions：
  284mm × 189mm × 25mm

Attention: Provide customized hardware and software configuration services

Functional Software Overview

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The functional software is divided into a configuration scheme management module, an input source selection module, an output protocol setting module, as well as a video preview and parameter display module on the right. The scheme management module supports saving the current software setting parameters for direct invocation in subsequent use, and enables operations such as loading, saving, deleting, and adding configuration schemes；The input source selection module allows importing local videos or images as the actual output content for external pushing. Meanwhile, the current input source path can be displayed below, which is convenient for identifying and distinguishing the content of the current input source；The protocol setting module supports selecting four different protocols for content output: GB 28181, RTSP server, RTSP push streaming end, and UDP. Custom parameter configuration is supported under each protocol. Additionally, the Extra and Pro models also support multi - channel concurrent testing.

The core content on the right side of the functional software includes the display of the current input source status, the video parameters and audio parameters of the selected input source, file type, video duration, bitrate, etc., and supports the preview of output content. It also supports the display of current output stream parameters, including output stream protocol, IP address and port number, channel name, and current channel status.

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Multi-channel concurrent functionality
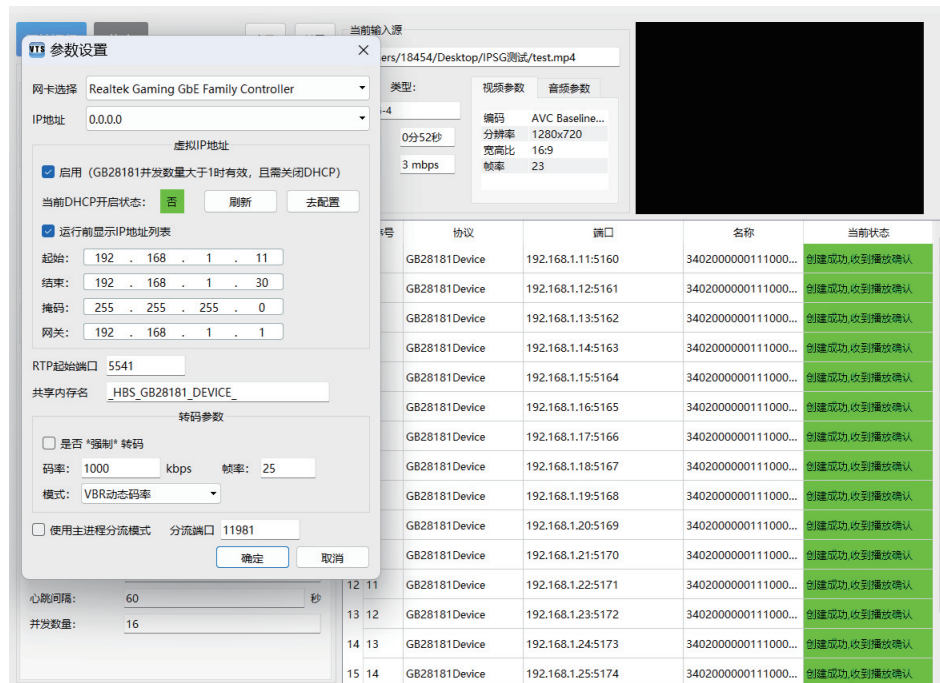
Actual Effect Diagram 1 of Multi-Channel Concurrency

Actual Effect Diagram 2 of Multi-Channel Concurrency

Enabling the multi - channel concurrency function can realize the function of using a single device to simulate multiple IP addresses to send signals to the tested link, so as to carry out a stress test on the tested link. In the parameter settings, you can select the network card and its IP address to be used for the test; You can set the starting IP address and ending IP address. With the Extra model, you can simulate up to 128 concurrent IP addresses; After starting the test, it can automatically generate all IP addresses within the specified range; it supports transcoding test files, allowing you to set the bit rate, frame rate, and transcoding mode.

Set the number of concurrent channels. After the signal is output, you can view the IP addresses, channel names and current states of all output channels.

A typical application scenario of this function is, for example, simulating the access of 128 IPC cameras to a closed-circuit surveillance video recorder for stress testing to verify the pressure-bearing capacity of the recorder.

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